

**Notice of Allowability**

Application No.

10/677,439

Examiner

Y. J. Han

Applicant(s)

MEDNIK ET AL.

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to a case filed on 10/2/03.
2. ☒ The allowed claim(s) is/are 1-31.
3. ☒ The drawings filed on 02 October 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

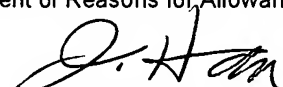
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
JESSICA HAN  
PRIMARY EXAMINER

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. Claims 1-31 are allowed.
2. The following is an examiner's statement of reasons for allowance:

Claim 1 recites, inter alia, an integrator having an input coupled to said second winding for providing an output representing an amount of magnetic energy storage in said power magnetic element; a comparison circuit for detecting when said output of said integrator indicates that said amount of magnetic energy storage has reached a level substantially equal to zero; a sampling circuit having a signal input coupled to said second winding and a control input coupled to an output of said comparison circuit for sampling a voltage of said second winding in conformity with said integrator indicating that said amount of magnetic energy storage has reached said substantially zero level; and a switch control circuit having an output coupled to said switching circuit and having an input coupled to an output of said sampling circuit, whereby said switching circuit is controlled in conformity with said sampled voltage.

Claim 14 recites, inter alia, a first detection circuit having an input coupled to said second winding for detecting a zero magnetic energy storage cycle point of a post-conduction resonance condition of said power magnetic element; a second detection circuit coupled to an output of said first detection circuit for detecting a beginning of a subsequent post-conduction resonance condition of said power magnetic element in conformity with an output of said first detection circuit that indicates said detected zero magnetic energy storage cycle point; a sampling circuit having a control input coupled to said second detection circuit for sampling a voltage of said second winding at a time preceding or equal to said beginning of said subsequent post-

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conduction resonance condition; and a switch control circuit having an output coupled to said switching circuit and having an input coupled to an output of said sampling circuit, whereby said switching circuit is controlled in conformity with said sampled voltage.

Claim 18 recites, inter alia, integrating a first voltage across said second winding to determine a second voltage corresponding to a level of magnetic energy storage in said power magnetic storage element; comparing said second voltage to a threshold to determine a sampling time at which said level of magnetic energy storage is substantially equal to zero; sampling said first voltage at said sampling time; and controlling subsequent energizing of said magnetic storage element in conformity with said sampled first voltage.

Claim 24 recites, inter alia, first detecting a zero magnetic energy storage cycle point of a post-conduction resonance condition of said power magnetic storage element in conformity with said sensed magnetic flux; second detecting a beginning of a subsequent post-conduction resonance condition of said power magnetic element in conformity with a result of said first detecting; sampling a voltage of said second winding at a time preceding or equal to said beginning of said subsequent post-conduction resonance condition; and controlling subsequent energizing of said magnetic storage element in conformity with said sampled voltage.

Claim 28 recites, inter alia, an integrator having an input coupled to said second winding for providing an output representing an amount of magnetic energy storage in said power magnetic element, a comparison circuit for detecting when said output of said integrator indicates that said amount of magnetic energy storage has reached a level substantially equal to zero, a sampling circuit having a signal input coupled to said second winding and a control input coupled to an output of said comparison circuit for sampling a voltage of said second winding in

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conformity with said integrator indicating that said amount of magnetic energy storage has reached said substantially zero level, and a switch control circuit having an output coupled to said switching circuit and having an input coupled to an output of said sampling circuit, whereby said switching circuit is controlled in conformity with said sampled voltage.

The art of record does not disclose the above limitations, nor would it be obvious to modify the art of record so as to include either of the above limitations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Y. J. Han whose telephone number is 571-272-2078. The examiner can normally be reached on Mon-Fri 5:30am-2:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "J. Han". The signature is fluid and cursive, with the first letter "J" being large and stylized, and the last name "Han" written in a more standard cursive script.

J. Han  
Primary Examiner  
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